



ITT

Engineered Valves

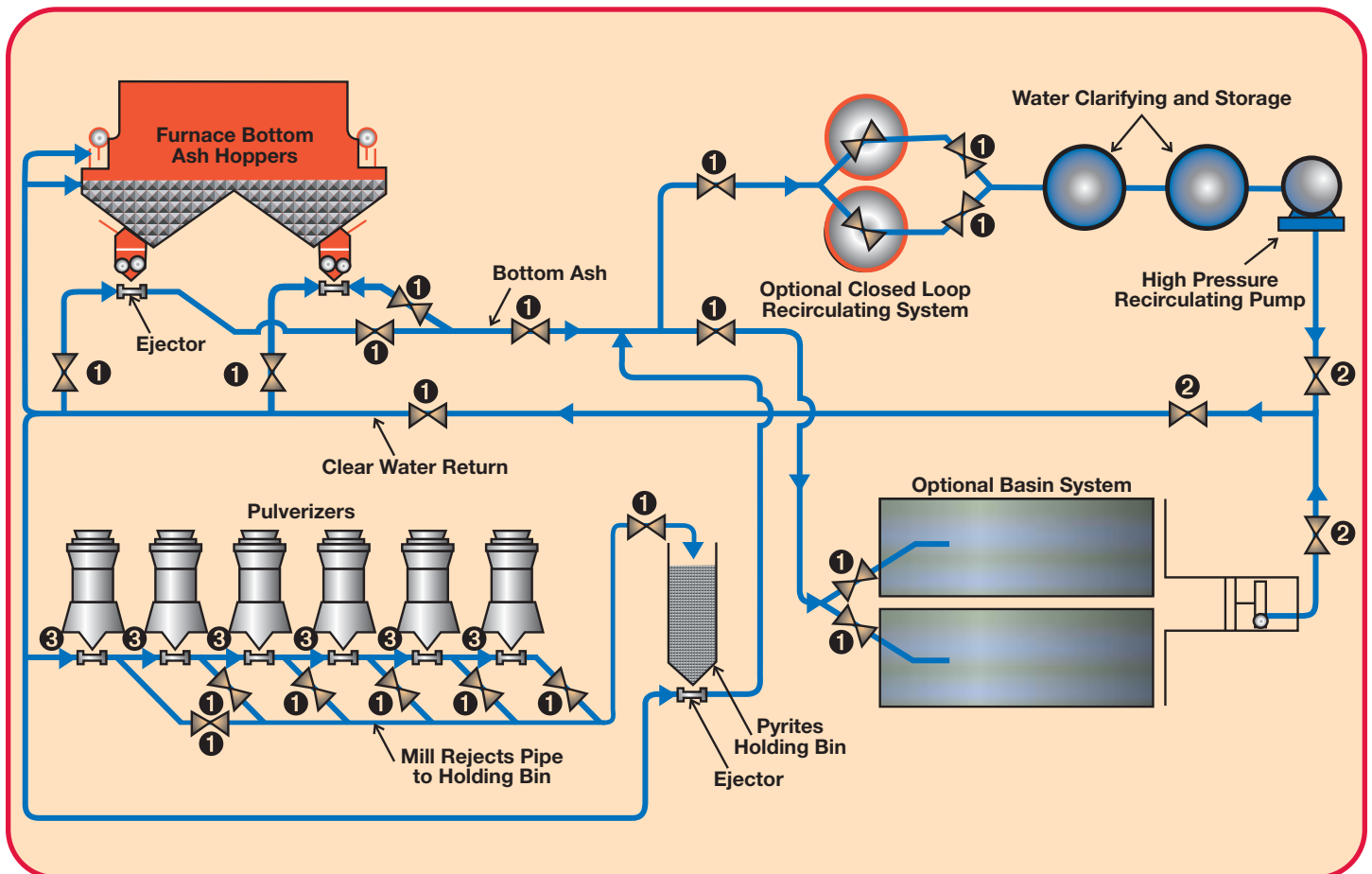
Valves for Ash

QUALITY VALVE PRODUCTS
DESIGNED SPECIFICALLY FOR
THE POWER INDUSTRY.



Engineered for life

Bottom Ash Handling



❶ BOTTOM ASH SLUICE VALVE



Fabri-Valve® XS150-ULV

❷ BOTTOM ASH SLUICE VALVE - HIGH PRESSURE



Fabri-Valve® XS150

❸ PYRITE/MILL REJECTS



Fabri-Valve® C/F37

ITT Fabri-Valve® XS150ULV Urethane Lined Knife Gate Valve

The ITT Fabri-Valve® XS150ULV provides bubble-tight bi-directional shutoff in bottom/ash/pyrite sluicing/mill rejects service in sizes 2 inch to 24 inch to 170°F and 150 PSI. The XS150ULV features replaceable FV8000 Urethane Liners and one-piece perimeter seals.

The FV8000 Urethane Liner features Triple Gate Scrapers in the chest area to inhibit solids and abrasives from entering the gate seal area. The perimeter seal is double locked in the valve body to securely retain the seal in the seal groove during cycling and has an injectable packing feature which provides for packing adjustments made under line pressure without valve disassembly or removal of the valve from the pipeline.

Actuated assemblies for automatic or remote operation are available in pneumatic, electric and hydraulic configurations.

Additional advantages of the XS150ULV include:

- True Full Port
- Built in "gate guides" provide maximum gate support for 150 PSI Bi-Directional rated performance
- Taper added to the body's interior eliminates material collection points found in conventional Urethane lined and unlined knife gate valves and ball valves
- Low Profile, Non-Rising Stem design allow for installations in areas of minimum clearance. Provisions for Open/Closed Lockouts are standard
- The one piece perimeter and chest seal allows for quick and easy maintenance

ITT Fabri-Valve® XS150 ANSI Class Knife Gate Valve

The Fabri-Valve® XS150 ANSI Class 150 rated, 285 PSI, High Performance Knife Gate Valve provides bubble-tight bi-directional shutoff in high pressure bottom ash/pyrite sluicing service where increased pumping distances or higher solid content call out for pump pressures which exceed the capabilities of 150 PSI rated valves.

The XS150 features a perimeter seal which is double locked in the valve body to securely retain the perimeter seal in the seal groove even during the most demanding applications. This perimeter seal technology allows for injectable packing adjustments on-line. Dual Scrapers Blades clean gate during operation and protect the seals from abrasives such as those found in sluice lines and bottom ash water service. The XS150 is available in sizes 2" to 24" and service to 400°F. Actuated assemblies for automatic or remote operation are available in pneumatic, electric and hydraulic configurations. Additional advantages of the XS150 include:

- True Full Port
- Built in "gate guides" and modified TFE bearing surfaces provide maximum gate support for true ANSI pressure rated performance
- Taper added to the body's interior eliminates material collection points found in conventional knife gates and ball valves
- Low Profile, Non-Rising Stem design allow for installations in areas of minimum clearance. Open/Closed Lockouts are standard!
- Available hardened ID and wear liners offer added abrasion protection
- The one-piece perimeter and chest seal allows for quick and easy maintenance

ITT Fabri-Valve® C/F 37 Knife Gate Valve

ITT Fabri-Valve® Cast C 37 Knife Gate Valve features machined integral seats and Gate Cams/Wedges for tight shut off to 150 PSI in sizes 2 inch to 24 inch and service to 1500°F. The true full port Fabri-Valve® C 37 is ideally suited for isolation of material airlock valves, rotary valves and automatic material handling valves installed as OEM equipment on the outlet of hoppers including ESP and Baghouse hoppers. Available with Gate Backing Rings, these Rings allow for "SEAT SIDE UP" installation of the C 37 which eliminates collection pockets for ASH and other solids as is common in other valves. Preventing build up prevents gate jamming and provides reliable isolation when needed.* The word "SEAT" is cast into the body for a permanent reference to assist proper installation orientation. The C 37 is also a solid choice for the mill reject/ pyrite discharge valve on pulverizers. Specifying this Valve as a F 37 allows the user to specify non-standard ports, bolt patterns, and body styles such as square and rectangle. This versatility if often needed when retrofitting existing mills. Because of the built-in design flexibility of the F 37, the F 37 is available in 1.5 inch through 96 inch including 5 inch.

A partial list of options available on the C/F 37 include:

- Actuation for automatic and remote operation
- Body materials: 304, 316, 317L, 2205, Inconel 800HT, S309, Hastelloy C276 and other cast or weldable materials
- Hardened gates such as 17-4 PH Stainless and 400 series Stainless
- Replaceable Pop-In style seats (single and dual) of metal, elastomers including AFLAS and VITON, polyurethane, UHMW-P, PTFE
- Deflection/ Wear Cones. Deflects material flow away from the seat face
- Surface Protection of Stellite, Tungsten Carbide Coatings, Nitriding
- High Temperature Packing
- Non-Rising Stems to allow for installations in areas of minimum clearance.
- Flush ports

* For isolation service in static columns of solid particle and powders, specify ITT Fabri-Valve® F39 Ductile Iron is also available. Specify ITT Fabri-Valve® C45.

ITT Fabri-Valve® F39 Ported Slide Gate for Hopper Isolation

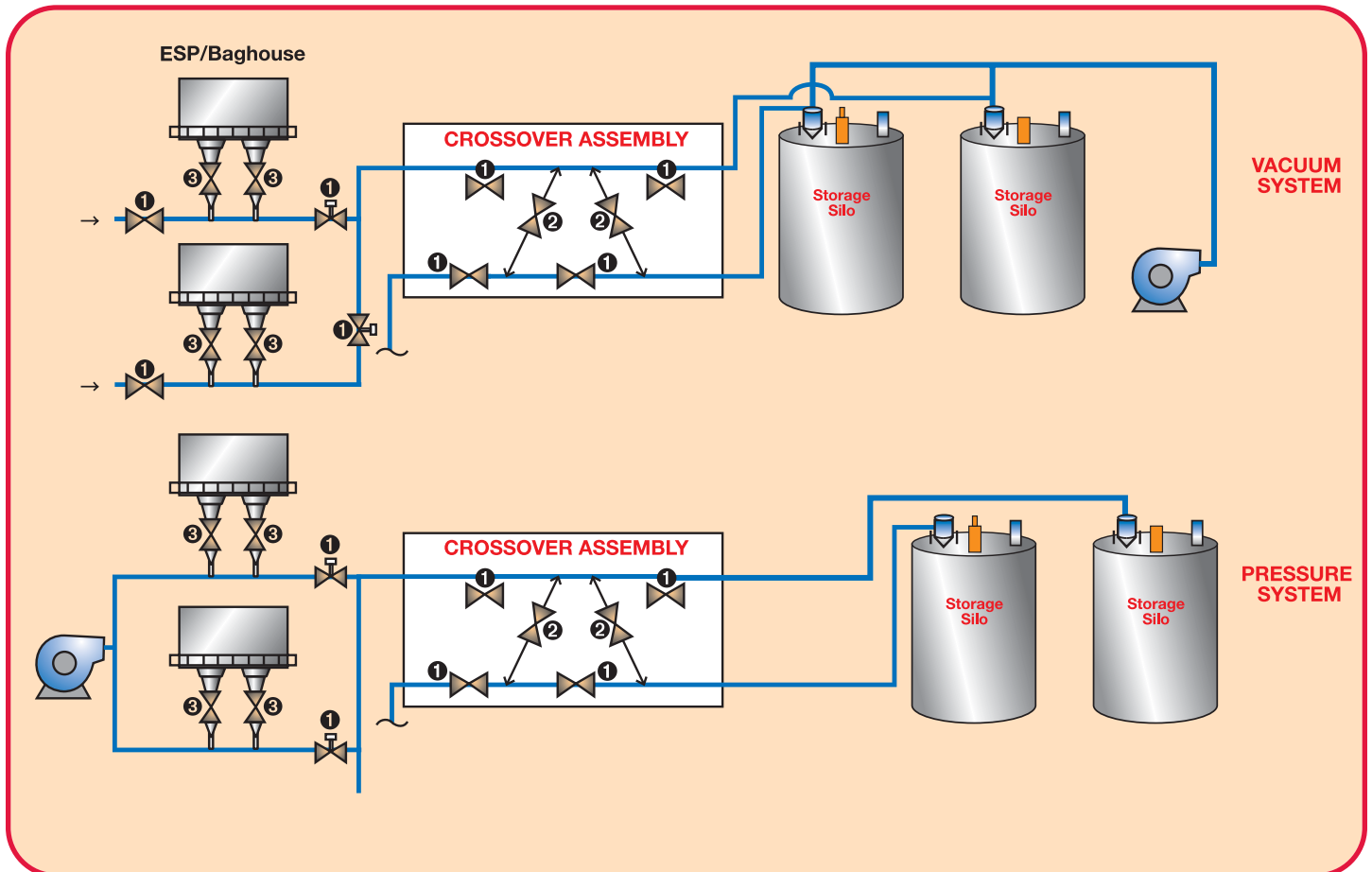
The Fabri-Valve Figure F39 slide gate valve is available in sizes 1.5 inches to 96 inches and is designed for shut off and throttling in difficult dry abrasives and/or high solids slurry service. The standard round port configuration is used for on/off service and the optional diamond port configuration is used for throttling.

Available with a handwheel or automated, the Figure F39 has the unique ability to operate in a static column of solid particles and powders. The opening in the slide gate merely moves a disc of material laterally then returns it when the slide gate is reversed. Consult factory for shut off capability with standard and optional seats.

All Figure 39 slide gate valves with handwheels include a provision for a locking device. Consult factory for details.



Fly Ash Handling



❶ BRANCHLINE/PNEUMATIC
TRANSPORT ISOLATION VALVE



ITTT Fabri-Valve® C45 Gate Valve

❷ CROSSOVER VALVE



ITTT Fabri-Valve® C67
Bi-Directional Gate Valve

❸ ISOLATION VALVE FOR MATERIAL
HANDLING AND AIRLOCK VALVES



Fabri-Valve® C/F37

ITT Fabri-Valve® C45 Cast Knife Gate Valve

The ITT Fabri-Valve® C45 features a solid Ductile or Carbon Steel* body with a machined integral seat and Gate Cams/Wedges for tight shut to 150 PSI in sizes 2 inch to 24 inch and service to 650°F.

The ITT Fabri-Valve® C45 is built for long, dependable service. ITT true full port Fabri-Valve® C45 Cast Knife Gate Valves are routinely used as OEM equipment by the OEM's who design and build Vacuum, Pressure and Combination Vacuum/ Pressure ASH conveying systems. Designed for on and off service and ASH flow in one direction, the ITT Fabri-Valve® C45 provides reliable Branchline Isolation and Pipeline isolation for dry applications. The ITT C45 is rugged and easy to maintain. The word "SEAT" is cast into the body for a permanent reference to assist proper installation orientation.

The ITT Fabri-Valve® C45 is available with interchangeable components which are used to customize your valve to a specific application.

Some of these available components are:

- Actuation for automatic or remote operation
- Pop-In style replaceable metal seats with hard facing or hardened ID's. Having a larger cross section and seating area than conventional knife gate style seats, service life is increased. This unique design also allows these replaceable seats to be available in EPDM, Viton and AFLAS®.
- Deflection Cones, sometimes referred to as Wear or Flow Cones, which divert abrasive flow from the seat to extend seat life.
- PTFE/Graphite KEVLAR® packing for the ultimate in packing performance.
- Shrouds

* For Bodies in Stainless Steel, see details on the ITT Fabri-Valve C37.

ITT Fabri-Valve® C/F 37 Knife Gate Valve

ITT Fabri-Valve® Cast C 37 Knife Gate Valve features machined integral seats and Gate Cams/Wedges for tight shut off to 150 PSI in sizes 2 inch to 24 inch and service to 1500°F. The true full port Fabri-Valve® C 37 is ideally suited for isolation of material airlock valves, rotary valves and automatic material handling valves installed as OEM equipment on the outlet of hoppers including ESP and Baghouse hoppers. Available with Gate Backing Rings, these Rings allow for "SEAT SIDE UP" installation of the C 37 which eliminates collection pockets for ASH and other solids as is common in other valves. Preventing build up prevents gate jamming and provides reliable isolation when needed.* The word "SEAT" is cast into the body for a permanent reference to assist proper installation orientation. Specifying this Valve as a F 37 allows the user to specify non-standard ports, bolt patterns, and body styles such as square and rectangle. This versatility is often needed when fitting up to existing hoppers. Because of the built-in design flexibility of the F 37, the F 37 is available in 1.5 inch through 96 inch including 5 inch.

A partial list of options available on the C/F 37 include:

- Actuation for automatic and remote operation
- Body materials: 304, 316, 317L, 2205, Inconel 800HT, S309, Hastelloy C276 and other cast or weldable materials**
- Hardened gates such as 17-4 PH Stainless and 400 series Stainless
- Replaceable Pop-In style seats (single and dual) of metal, elastomers including AFLAS and VITON, polyurethane, UHMW-P, PTFE
- Deflection/ Wear Cones. Deflects material flow away from the seat face
- Surface Protection of Stellite, Tungsten Carbide Coatings, Nitriding
- High Temperature Packing
- Spring Loaded Packing follower for automated valves.
- Non-Rising Stems to allow for installations in areas of minimum clearance.
- Flush ports
- Bonnets

* For isolation service in static columns of solid particle and powders, specify ITT Fabri-Valve® F39

** Ductile Iron is also available. Specify ITT Fabri-Valve® C45.

ITT Fabri-Valve® C67 Bi-Directional Knife Gate Valve

The ITT Fabri-Valve® C67 is available in sizes 2 inch to 24 inch for 150 PSI (30 inch- 100 PSI, 36 inch- 80 PSI) service to 400°F. The ITT C67 features a unique, patented* perimeter seal that provides bubble-tight shut off for applications such as CROSS OVER VALVES where material can flow through the valve in either direction and Bi-Directional shut-off is required.

The seal is retained in the valve body by its trapezoidal shape. A relief has been cut in the valve body behind the seal. This relief reduces compression set; the shape of the seal eliminates leakage due to seat roll-over, eliminates seal pull out, and eliminates grooves that collect material which prevent the valve from sealing properly. To assist packing performance, Packing Support Bars are standard in sizes 6" and larger and work as scrapers to inhibit fly ash from flowing to the valve packing.

Available C67 options include:

- Actuation for automatic or remote operation
- Seal Materials of EPDM (280°F), Viton (350°F) or AFLAS® (400°F). Other material available upon request.
- Hardened gate materials for applications close to Tees and Laterals including Ceramic Overlays
- Chest Liners which inhibit ash build up in the chest area of the valve
- PTFE/ Graphite KEVLAR® packing
- Spring Loaded Packing follower for automated valves.

* U.S. Patent #5, 154, 397

ITT Fabri-Valve® F39 Ported Slide Gate for Hopper Isolation

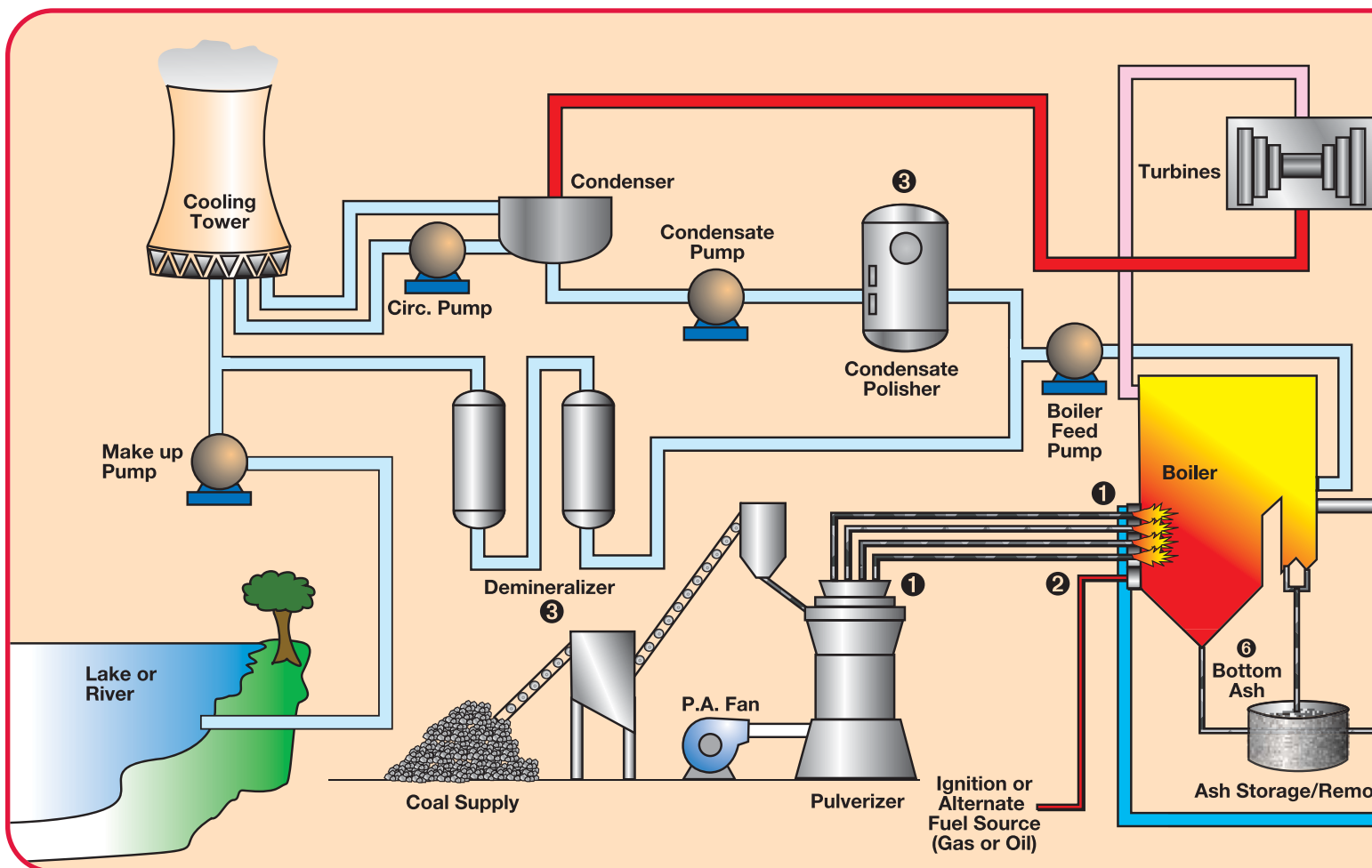
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Available with a handwheel or automated, the Figure F39 has the unique ability to operate in a static column of solid particles and powders. The opening in the slide gate merely moves a disc of material laterally then returns it when the slide gate is reversed. Consult factory for shut off capability with standard and optional seats.

All Figure 39 slide gate valves with handwheels include a provision for a locking device. Consult factory for details.



ITT Valves for your Power Plant



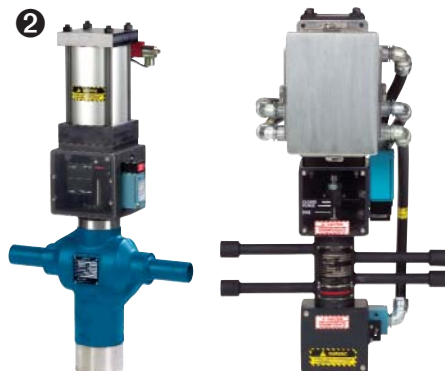
①



Pulverizer/Coal Burner Isolation

- "Pop-in" style replaceable seats available in a variety of materials
- Optional hard facing seats/gates for additional abrasion resistance
- Exceeds NFPA 85 dusttight requirement
- Custom-engineered designs for retrofit applications

②



Burner & Igniter Safety Shutoff Valve

- Compact 3-in-1 design requires less space and reduced installation time and labor.
- Oil shutoff, atomizing shutoff and purge in single valve system
- Gas double block and vent in single valve system
- Factory Mutual (FM) Approved

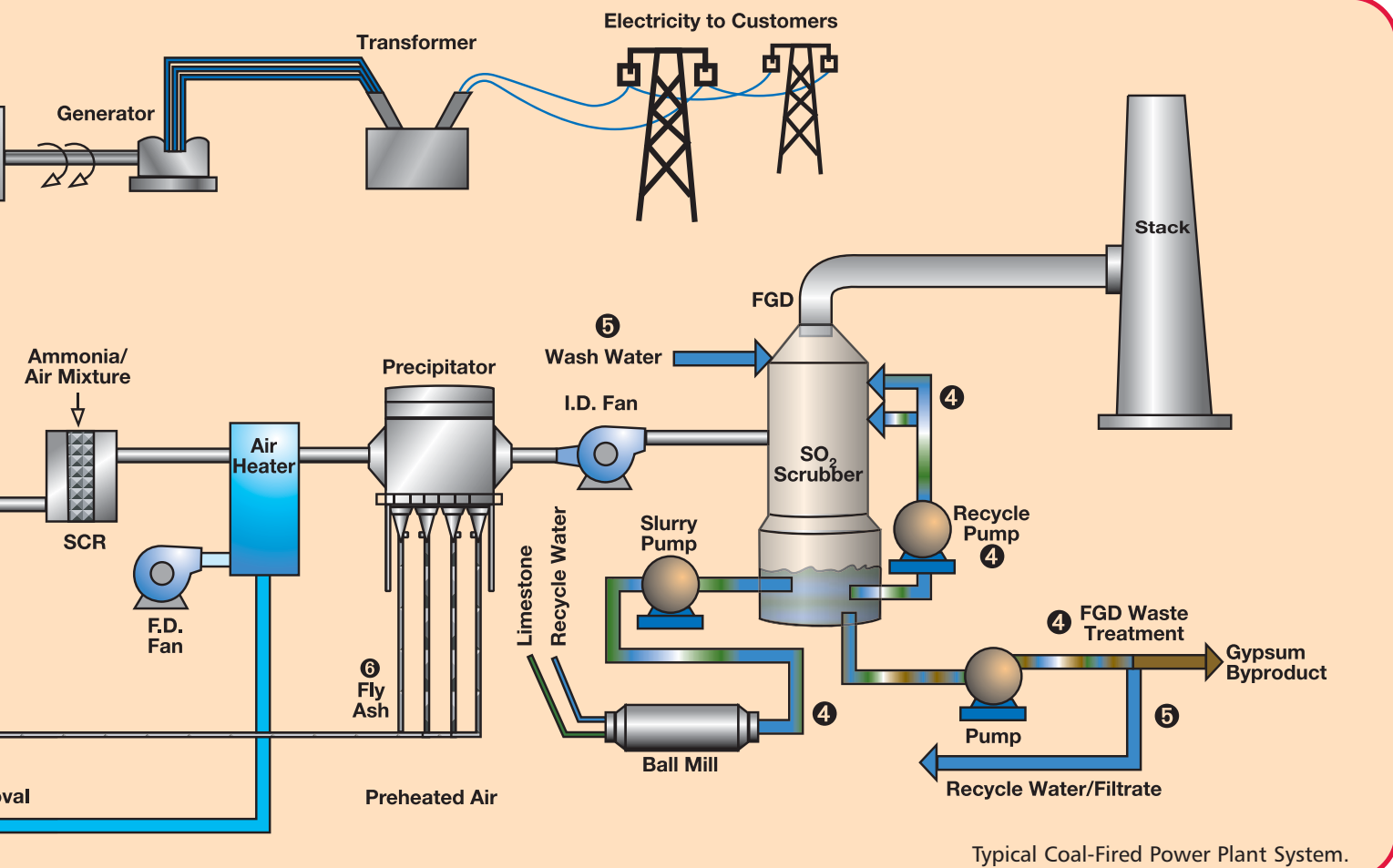
③



Demineralizer/Condensate

- 50+ years of proven service for demineralizer
- Reliable long term life
- Easy in-line maintenance
- Modulating and control capabilities
- No packing glands to maintain

nt System



FGD Slurry

- Limestone and gypsum slurries
- Zero Discharge options available
- Urethane and rubber-lined designs available
- Wide selection of special alloy materials for high chlorides



FGD Water/Waste Water

- Filtrate, reclaim, mist eliminator wash, dewatering
- Rugged design for reliable, long-term life
- Easy in-line maintenance
- Diaphragm able to close over suspended solids
- Modulating and control capabilities



Ash Handling

- Bottom ash and fly ash, dry and wet
- Designs available up to 1600°F (871°C)
- Bubble-tight, bi-directional shutoff
- Upgraded seats and gates available for more abrasive applications

ITT Engineered Valves:

60 years of Providing Quality, Innovative Solutions

ITT Engineered Valves has earned the reputation for delivering the highest quality, innovative valve solutions for a wide range of industrial fluid control needs. These best in-class quality valves have been the foundation for industries such as Mining, Power Generation, Pollution Control, Pulp & Paper, Chemical Processing, Water Treatment, Pharmaceutical, Food & Beverage and Bio-Processing.

Through both standard and custom designed valve assemblies, ITT Engineered Valves is your partner in providing the best quality and value engineered solutions for your unique flow control needs.

- ☐ Dia-Flo® Diaphragm Valves
- ☐ Fabri-Valve® Knife Gate, Slide Gate, Wedge Gate and Custom-Fabricated Valves
- ☐ Cam-Tite® Hazardous and Critical Duty Ball Valves
- ☐ Cam-Line® Plastic Lined Ball Valves
- ☐ Skotch® Burner Safety Shut-Off valves



Lancaster PA facility



Amory MS facility

Engineered Valves

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